

**DETAILED ACTION**

1. Claims 1-2, 5-6, 8-14, 18-23 have been presented for examination.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(c), (f) or (g) prior art under 35 U.S.C. 103(a).

2. **Claims 1-2 5-6, 8-14, and 18-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Weigelt et al. (U.S. Patent No. 5,712,782) in view of Ma et al. (U.S. Patent No. 6,553,300 B2).**

As per claim 1, Weigelt is directed to a method of optimization of adjustable parameters of at least one machine, comprising the following steps; providing a data processing system, wherein the data processing system is a diagnosis system (**column 6, lines 13-24**); optimizing adjustable parameters by processing of at least one process algorithm provided in the data processing system (**column 4, lines 38-**

55); using an adjustable parameter to be optimized, a further parameter, and an internal expert knowledge as machine internal data (**column 7, lines 30-39**); processing the machine-internal data and machine-external data by the data processing system in consideration of the target data (**column 7, lines 1-39**); generating further-processible output data (**column 7, lines 1-39**) obtaining optimized adjustable parameters (**column 7, lines 30-34**); and using the optimized adjustable parameters for indication to an operator or for adjustment of the at least one machine (**column 7, lines 34-39**) but fails to explicitly disclose selecting the process algorithm to be processed from a plurality of process algorithms proposing or automatically selecting a process algorithm by the data processing system depending on data selected from the group consisting of machine-internal data, machine-external data, and target data, defining situation patterns for the process algorithms by at least a part of data selected from the group consisting of machine-internal data, machine-external data, target data and combinations thereof; and selecting a situation pattern which comes close or is identical to an instantaneous situation pattern and a process algorithm linked to the situation pattern, depending on the at least one part of the machine-interior data and machine-exterior data with consideration of the target data which defines at least a part of an instantaneous situation pattern

Ma teaches selecting the process algorithm to be processed from a plurality of process algorithms (**column 5, lines 1-9 and column 6, lines 4-12, procedure to follow for adjustment**) and proposing or automatically selecting a process algorithm by the data processing system depending on data selected from the group consisting of machine-internal data, machine-external data, and target data (**column 5, lines 29-58 and column 6, lines 4-9, target ranges**) defining situation patterns for the process algorithms by at least a part of data selected from the group consisting of machine-internal data, machine-external data, target data and combinations thereof (**column 5, lines 29-58, set of settings to remember, new situations**); and selecting a situation pattern which comes close or is identical to an instantaneous situation pattern and a process algorithm linked to the situation pattern, depending on the at least one part

of the machine-interior data and machine-exterior data with consideration of the target data which defines at least a part of an instantaneous situation pattern (**column 5, lines 29-58, input to the system, information from on-board sensors and microcontrollers, column 6, lines 1-9, target ranges**). It would have been obvious to an ordinary person skilled in the art at the time of the invention to combine the method of optimization of adjustable parameters of at least one machine of Weigelt with the selection of process algorithms method steps of Ma in order to eliminate the need for constant operator monitoring and regular adjustment and reduces operator fatigue (**Ma, column 2, lines 49-53**).

**As per claim 2**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising determining the optimization of the adjustable parameter by target data selected from the group consisting of editable target data, and storable target data (**Weigelt, column 7, lines 1-39**).

**As per claim 5**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of editing and storing the machine-internal data, the machine-external data and the output data by the data processing system (**Weigelt, column 7, lines 1-39**).

**As per claim 6**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of operating the data processing system in a time controlled manner (**Weigelt, column 5, lines 24-33**).

**As per claim 8**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of using a traveling speed, a rotary speed of at least one threshing drum and/or the rotary speed of a blower of at least one cleaning device as the adjustable parameters to be optimized (**Weigelt, column 5, lines 24-33**).

**As per claim 9**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of using a crop-specific and/or machine-specific parameter as the

further parameter; and performing the determination of the further parameter by sensors which are in operative communication with the machine or by inputting (Weigelt, column 5, lines 48-59).

**As per claim 10**, the combination of Weigelt and Ma already discloses a method as defined in claim 9; and further comprising the step of using a parameter selected from the group consisting of a grain loss, a grain throughput, a crop moisture, a crop total throughput and a broken corn portion as the further parameter (Weigelt, column 7, lines 40-55).

**As per claim 11**, the combination of Weigelt and Ma already discloses a method as defined in claim 9; and further comprising the step of using adjustment regions for parameters of working units of the machine as the further parameter (Weigelt, column 6, lines 13-24).

**As per claim 12**, the combination of Weigelt and Ma already discloses a method as defined in claim 5; and further comprising the step of generating the machine-external data by external systems and using plant-specific data, geographic data, weather data and/or external expert knowledge as the machine-external data (Weigelt, column 2, lines 40-55).

**As per claim 13**, the combination of Weigelt and Ma already discloses a method as defined in claim 12; and further comprising the step of using crop and/or data and experience knowledge as the external expert knowledge and as internal expert knowledge (Weigelt, column 7, lines 30-39).

**As per claim 14**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of processing a diagnosis selected from the group consisting of process diagnosis, case diagnosis, and model-oriented diagnosis, with the at least one process algorithm of the data processing device (Weigelt, column 8, line 60 – column 9, line 7).

**As per claim 18**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of generating changed process algorithms generation by the data processing system depending on machine-interior data and machine-exterior data and with consideration of changeable target data (Ma, column 5, lines 34-61).

**As per claim 19**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of generating changed situation patterns by the data processing system in dependence on machine-interior data and machine-exterior data and with consideration of changeable target data (**Ma, column 5, lines 29-58**).

**As per claim 20**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of storing process algorithms, situation patterns or both in data sets, wherein the data sets include at least a part of machine-internal data, machine-external data and target data (**Ma, column 5, lines 29-58**).

**As per claim 21**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of incorporating in data processing system situation patterns and associated process algorithms and/or optimized adjustable parameters to be available for further machines (**Ma, column 5, lines 29-58**).

**As per claim 22**, the combination of Weigelt and Ma already discloses a method as defined in claim 1, wherein the machine is an agricultural harvester; and further comprising determining at least one process algorithm depending on harvesting conditions of the agricultural harvester (**Weigelt, column 5, lines 40-59**).

**As per claim 23**, the combination of Weigelt and Ma already discloses a method as defined in claim 1; and further comprising the step of adapting the processing algorithm by analysis and evaluation (**Weigelt, column 8, lines 15-19**).

**Response to Arguments**

3. Applicant's arguments filed 06/18/09 have been fully considered but they are not persuasive.
4. In response to Applicant's argument on pages 9-10 that Ma does not teach selecting a process algorithm by teaching fuzzy controllers, the Applicant is directed to column 5, lines 48-58 and column 2,

26-48 wherein the processor determines, or selects a procedure to adjust the actuators to move the process variables/parameters to target ranges.

In response to Applicant's argument on page 10 that Ma does not teach selection of a process algorithm depending on target data, the Applicant is directed to column 6, lines 4-12 wherein the procedure for adjustment is based on target ranges.

In response to Applicant's argument on page 11 that Ma does not teach or suggest defining situation patterns for the process algorithm by the rules of Ma, the Applicant is directed to column 5, lines 48-58 and column 2, 26-48 wherein the system has learning ability from neural networks that learns a new set of settings to remember.

In response to Applicant's argument on page 11 that Ma does not teach or suggest selecting a situation pattern that comes at least close to an instantaneous situation pattern and a process algorithm linked to the situation pattern, the situation pattern is selected by the adaptive neuro-fuzzy inference system (column 5, lines 40-61) from the situation patterns defined above from learning experience, the fuzzy logic of the system allows for selection of a situation pattern close to an instantaneous situation pattern when an exact match of a situation pattern cannot be found. Furthermore, a process algorithm linked to the situation pattern is found using the neural networks which learn new situations with procedures that are followed to adjust the actuators.

Applicant's argument on 11-12 that any combination of Ma and Weigelt do not teach the claimed limitations and that Ma and Weigelt would have to be modified are mere allegation and wholly unpersuasive.

In view of the above, the Examiner has not found any subject matter in the claims or specification that can overcome the combination of prior art teachings.

**Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. The prior art made of record is not relied upon because it is cumulative to the applied rejection. These references include:

1. U.S. Patent No. 6,622,070 B1 issued to Wacker et al. on 09/16/03.
  2. U.S. Patent No. 6,937,939 B1 issued to Shibusawa et al. on 08/30/05.
  3. U.S. Patent No. 4,337,611 issued to Mailander et al. on 07/06/82.
  4. U.S. Patent No. 5,220,876 issued to Monson et al on 06/22/93.
  5. U.S. Patent No. 5,153,807 issued to Saito et al. on 10/06/92.
  6. U.S. Patent No. 5,465,204 issued to Sekine et al. on 11/07/95.
  7. U.S. Patent No. 6,609,036 B1 issued to Bickford on 08/19/03.
  8. U.S. Patent No. 6,726,559 B2 issued to Bischoff on 04/27/04.
6. All Claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suzanne Lo whose telephone number is (571)272-5876. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571)272-2297. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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